United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued December 5, 1997 Decided January 16, 1998

No. 96-1268

NATIONAL ASSOCIATION OF MANUFACTURERS,
PETITIONER

v.

UNITED STATES DEPARTMENT OF THE INTERIOR,
RESPONDENT

On Petition for Review of an Order of the
United States Department of the Interior

James R. Bieke argued the cause for the petitioner. *William R. Galeota* and *Jan Amundson* were on brief.

Greer S. Goldman, Attorney, United States Department of Justice, argued the cause for the respondent. *Lois J. Schiffer,* Assistant Attorney General, and *Naikang Tsao,* Attorney, were on brief.

Before: GINSBURG, HENDERSON and TATEL, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* HENDERSON.

KAREN LECRAFT HENDERSON, *Circuit Judge*: The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 *et seq.,* (CERCLA) permits a "trustee" [1] to recover from a "potentially responsible party" (PRP) [2] "damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from ... a release" of a hazardous substance regulated under CERCLA. 42 U.S.C. § 9607(a)(C). Subsection 301(c)(1) of CERCLA, directs the President (acting through his designee, the Secretary of the United States Department of Interior) to promulgate regulations that "specify ... standard procedures for simplified assessments [of natural resource damages] requiring minimal field observation, including establishing measures of damages based on units of discharge or release or units of affected area." 42 U.S.C. § 9651(c). A damage

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[1] A "trustee" is a federal, state or Indian tribal official who, in accordance with 42 U.S.C. § 9607(f)(2), is designated to "act on behalf of the public as [a] trustee[ ] for natural resources."

[2] Under CERCLA, a PRP is:

> (1) the owner and operator of a vessel or a facility,
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> (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
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> (3) any person who by contract, agreement, or otherwise arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and
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> (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, ...

42 U.S.C. § 9607(a).

assessment performed according to these procedures is entitled to "the force and effect of a rebuttable presumption ... in any administrative or judicial proceeding." 42 U.S.C. § 9607(f)(2)(C).

This is a challenge to the final rule of the Department of the Interior (DOI), entitled "Natural Resource Damage Assessments—Type A Procedures," 61 Fed. Reg. 20,560 (1996) (codified at 43 C.F.R. pt. 11) (hereinafter 1996 Type A rule), that partially implements CERCLA section 301(c), 42 U.S.C. § 9651(c). The petitioner, National Association of Manufacturers (NAM), claims that the Type A final rule violates CERCLA and the Administrative Procedure Act, 5 U.S.C. §§ 551 *et seq.,* (APA), and therefore must be vacated for one or more of the following reasons: (1) the rule permits damages to be calculated without on-site verification that a natural resource has in fact been injured and that the injury is in fact attributable to the particular release in question; (2) the rule does not require a trustee to consider, in calculating natural resource damage (NRD), an alternative to restoration of an adversely affected resource (i.e., replacing a damaged resource or acquiring its equivalent); (3) the rule arbitrarily and capriciously fails to relate selected restoration alternatives to the "services" provided by the resource; [3] (4) the rule allows recovery for purely speculative losses regarding the affected resource's ability to assimilate future releases; (5) the rule authorizes recovery of private losses related to commercial fishing and hunting; (6) the rule's databases and computer submodels are not the "best available procedures" for determining NRD and invalidly rely on outdated studies and information or on suspect methodologies or both; (7) the rule permits a trustee to use Type A and Type B procedures

[3] Natural resource "services" consist of "the physical and biological functions performed by the resource including the human uses of those functions. These services are the result of the physical, chemical, or biological quality of the resource." 43 C.F.R. § 11.14(nn) (1996).

in combination to assess NRD from a single release; [4] and (8) the rule provides for calculation of NRD resulting from releases or discharges of oil, notwithstanding the enactment of the Oil Pollution Act of 1990, 33 U.S.C. §§ 2701 *et seq.,* which authorizes the National Oceanic and Atmospheric Administration to regulate oil releases or discharges.

DOI contends that NAM's first and fifth claims are untimely, the third claim was not raised below, one of the arguments included in NAM's seventh claim is not ripe for review and the eighth claim should be dismissed for lack of jurisdiction. Additionally, DOI responds on the merits, arguing that its interpretation of the relevant CERCLA provisions is entitled to deference under *Chevron USA, Inc. v. Natural Resources Defense Council, Inc.,* 467 U.S. 837 (1984). In addition, DOI contends that its damage submodels are otherwise reasonable, scientifically valid and adequately supported by credible studies.

We conclude that NAM failed to raise the third claim below and that it lacks standing to bring the eighth claim. Regarding the remaining claims, we conclude that DOI's interpretation of relevant CERCLA provisions is entitled to deference under step two of the familiar *Chevron* analysis and that its damage submodels suffice. Accordingly, we deny NAM's request to set aside DOI's 1996 Type A rule, as amended.[5]

I. BACKGROUND

Section 301(c) of CERCLA recites:

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[4] The "Type A" and "Type B" titles come from the clauses of subsection 301(c)(2): clause "A" requires DOI to develop "standard procedures for simplified assessments" and clause "B" requires DOI to develop "alternative protocols for conducting assessments in individual cases." 42 U.S.C. § 9651(c)(2).

[5] DOI informed the court that it promulgated certain technical corrections to the May 1996 rule on November 10, 1997. *See* Natural Resource Damage Assessments—Type A Procedures, 62 Fed. Reg. 60,457 (1997) (hereinafter Revisions to 1996 Type A rule). As discussed *infra* notes 16 and 23, the corrections moot two of NAM's challenges to the Type A procedures.

> (1) The President, acting through Federal officials designated by the National Contingency Plan published under section 9605 of this title, shall study and, not later than two years after December 11, 1980 shall promulgate regulations for the assessment of damages for injury to, destruction of, or loss of natural resources resulting from a release of oil or a hazardous substance for the purposes of this chapter and section 1321(f)(4) and (5) of Title 33. Notwithstanding the failure of the President to promulgate the regulations required under this subsection on the required date, the President shall promulgate such regulations not later than 6 months after October 17, 1986.
>
> (2) Such regulations shall specify (A) standard procedures for simplified assessments requiring minimal field observation, including establishing measures of damages based on units of discharge or release or units of affected area, and (B) alternative protocols for conducting assessments in individual cases to determine the type and extent of short- and long-term injury, destruction, or loss. Such regulations shall identify the best available procedures to determine such damages, including both direct and indirect injury, destruction, or loss and shall take into consideration factors including, but not limited to, replacement value, use value, and ability of the ecosystem or resource to recover.
>
> (3) Such regulations shall be reviewed and revised as appropriate every two years.

42 U.S.C. § 9651(c). Trustees must retain sums recovered for NRD "without further appropriation, for use only to restore, replace, or acquire the equivalent of [the damaged] resources." 42 U.S.C. § 9607(f)(1). Further, "[t]he measure of damages in any action ... [is] not ... limited by the sums which can be used to restore or replace" the affected resources, although CERCLA proscribes "double recovery ... for natural resource damages, including the costs of damage assessment or restoration, rehabilitation, or acquisition for

the same release and natural resource." 42 U.S.C. § 9607(f)(1).

As the final sentence of subsection 301(c)(1) foresaw, development of Type A and Type B procedures has not been accomplished as expeditiously as the Congress directed. Today, more than 17 years after section 301(c) of CERCLA was enacted, DOI has developed "simplified assessment[ ]" (i.e., Type A) procedures for only two aquatic environments: (1) the Great Lakes environments and (2) coastal and marine environments. The latter were the first Type A procedures developed; they were promulgated in 1987, *see* Natural Resource Damage Assessments, 52 Fed. Reg. 9042 (1987) (codified at 43 C.F.R. pt. 11 (1988)) (hereinafter 1987 Type A rule), and subsequently reviewed by this court, *see Colorado v. DOI,* 880 F.2d 481 (D.C. Cir. 1989). In *Colorado* we upheld the 1987 Type A rule in part and vacated it in part, relying on our companion decision reviewing a challenge to DOI's Type B rule. *See Ohio v. DOI,* 880 F.2d 432 (D.C. Cir. 1989) [hereinafter *Ohio II*]. After *Colorado*—in which we stated that "[w]e fully expect DOI to act as expeditiously as possible," 880 F.2d at 491—DOI spent almost seven more years revising the Type A procedures and adding to them submodels for assessing NRD in Great Lakes environments. *See* 1996 Type A rule, 61 Fed. Reg. at 20,560.

In light of the delay, it is indeed fortunate that a trustee has authority under CERCLA to settle claims for NRD without recourse to either Type A or Type B procedures. *See* 42 U.S.C. § 9622. Even if claims are not settled, a trustee is under no obligation to use Type A or Type B procedures to calculate damages—although the trustee must use the procedures if it wishes to use the rebuttable presumption provided for in subsection 107(f))(2)(C) of CERCLA, 42 U.S.C. § 9607(f)(2)(C). *See* 43 C.F.R. § 11.10 (1996).

If a trustee decides that a formal assessment is needed to effect recovery of NRD, the trustee must complete four administrative steps: (1) Preassessment, (2) Assessment Plan, (3) Assessment and (4) Post Assessment. 1996 Type A rule, 61 Fed. Reg. at 20,562. The first step, Preassessment,

consists of "rapid review of readily available information that focuses on resources for which the Federal or State agency or Indian tribe may assert trusteeship under section 107(f) or section 126(d) of CERCLA." 43 C.F.R. § 11.23(b) (1996). The purpose of the Preassessment is to "ensure that there is a reasonable probability of making a successful claim before monies and efforts are expended in carrying out an assessment." *Id.*

The second step, the Assessment Plan, is undertaken "to ensure that the assessment is performed in a planned and systematic manner and that methodologies selected ... for a type A assessment or ... for a type B assessment ... can be conducted at a reasonable cost." 43 C.F.R. § 11.30(b). "The Assessment Plan must identify and document the use of all of the type A and/or type B procedures that will be performed ... [and] be of sufficient detail to serve as a means of evaluating whether the approach used for assessing the damage is likely to be cost-effective and meets the definition of reasonable cost, as those terms are used" in the applicable regulations. *Id.* § 11.31(a)(1)-(2).

A trustee can use Type A procedures if six environmental conditions are met:

> (a) The released substance entered an area covered by the [coastal and marine or Great Lakes procedures] ...
>
> (b) The [type A procedures] cover the released substance[;] ...
>
> (c) The released substance entered the water at or near the surface[;] ...
>
> (d) At the time of the release, winds did not vary spatially over the area affected by the release in a way that would significantly affect the level or extent of injuries;
>
> (e) The authorized official is not aware of any reliable evidence that, for species that are likely to represent a significant portion of the claim, the species biomass is significantly lower than the species biomass assigned by the [relevant computer submodels][; and] ...

> (f) Subsurface currents either: are not expected to significantly affect the level or extent of injuries; or are reasonably uniform with depth over the water column in the area affected by the release.

43 C.F.R. § 11.34 (1996). If a release is within these environmental parameters, a preliminary assessment of damages is performed according to Type A procedures and included in the draft Assessment Plan made available for public review and comment. *Id.* § 11.43. If the preliminary assessment indicates that damages will exceed $100,000, a trustee must either "(1) limit the portion of [the trustee's] claim calculated with the type A procedure to $100,000; or (2) compute all damages using type B procedures." *Id.* § 11.42(b). Nevertheless "[t]he $100,000 limit applies only to damages calculated by a type A procedure and does not limit damages calculated through supplemental type B studies." 1996 Type A rule, 61 Fed. Reg. at 20,563.

In deciding whether to use Type A or Type B procedures (or some combination of the two), the trustee must "weigh[ ] the difficulty of collecting site-specific data against the suitability of the averaged data and simplifying assumptions in the type A procedure for the release being assessed." 43 C.F.R. § 11.35(a) (1996). The trustee may elect to use Type B procedures if "they can be performed at a reasonable cost and if the increase in accuracy outweighs the increase in assessment costs." *Id.* Even if a trustee decides to use Type A procedures, a PRP may nonetheless insist on Type B procedures. *See id.* § 11.35(b); 1996 Type A rule, 61 Fed. Reg. at 20,562.

A trustee may use both Type A and Type B procedures to calculate NRD for the same release if the following criteria are met:

> (1) The type B procedures are cost-effective and can be performed at a reasonable cost;
>
> (2) There is no double recovery; and
>
> (3) The type B procedures are used only to determine damages for injuries or compensable values that do not

> fall into the categories addressed by the type A procedure.

43 C.F.R. § 11.36(a) (1996). If a trustee decides to use both kinds of procedures, it "must document in the Assessment Plan how [it] intend[s] to prevent double recovery." 1996 Type A rule, 61 Fed. Reg. at 20,563.

The third step of the process, "Assessment," is subdivided into three phases:

> Injury Determination; Quantification; and Damage Determination. In Injury Determination, trustees determine whether any natural resources have been injured. If trustees determine that resources have been injured, they proceed to Quantification, in which they quantify the resulting change in baseline conditions. "Baseline" conditions are the conditions that would have existed had the release not occurred. Finally, in Damage Determination, trustees calculate the monetary compensation to be sought as damages for the natural resource injuries. Damages include two components: (1) the cost of restoring, rehabilitating, replacing, and/or acquiring the equivalent of the injured natural resources; and (2) the economic value lost by the public pending recovery of the resources (compensable value).
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> When trustees use type B procedures, they perform Injury Determination, Quantification, and Damage Determination through laboratory and field studies....
>
> When trustees use a type A procedure, they perform Injury Determination, Quantification, and Damage Determination through a computer model....
>
> Trustees must supply a number of data inputs to operate the [Type A submodels]. The rule also requires trustees to modify certain data contained in the models if they have more reliable information.... After trustees supply the data inputs and modifications, the models themselves perform the remaining calculations necessary to establish if there has been an injury, quantify the extent of injury, select appropriate restoration actions,

> and value economic losses. With the availability of these computer models, trustees will now be able to pursue compensation for cases in which the cost of detailed type B studies is prohibitive.

1996 Type A rule, 61 Fed. Reg. at 20,562-63. While the Type A computer submodels take into account a number of "site specific factors," including "physical variations among geographic areas, differences in the toxicity and physical characteristics of hazardous substances, seasonal and temperature effects, and differences in the biological productivity of the spill site," they do not require on-site testing, nor do they require empirical testing to establish a causal link between the release and any observable injury. *Id.* at 20,563.

Four computer programs comprise the Type A submodels and perform the damage calculations at the Assessment stage: (1) the Physical Fates Submodel, (2) the Biological Effects Submodel, (3) the Restoration Submodel and (4) the Compensable Value Submodel. 1996 Type A rule, 61 Fed. Reg. at 20,565-67. "The physical fates submodel estimates the distribution of the released substance on the water surface, along shorelines, in the water column, and in sediments over time." *Id.* at 20,565. "The biological effects submodel determines whether certain types of natural resource injuries have resulted from the release and, if so, quantifies those injuries." *Id.* "The restoration submodel estimates the cost, if any, of restoring the injured resources." *Id.* Finally, "[c]ompensable value, as computed by the compensable value submodel, is the sum of certain economic use values lost to the public pending reestablishment of baseline conditions through either natural recovery or active restoration, as determined by the restoration submodel." *Id.* at 20,566.

The fourth and final step of the process is the Post-Assessment phase, at which time the trustee prepares a "Report of Assessment that consists of the Preassessment Screen Determination, the Assessment Plan, and the information" used by the Type A submodels to calculate damages. 43 C.F.R. § 11.90(a) (1996). A copy of the report is then attached to the demand letter the trustee sends the PRP. *Id.*

§ 11.91. Finally, the trustee prepares a Restoration Plan, as required by section 111(i) of CERCLA, 42 U.S.C. § 9611, which details "how the monies [recovered] will be used to address natural resources, specifically, what restoration, rehabilitation, replacement, or acquisition of the equivalent resources will occur." *Id.* § 11.93(a).

II. DISCUSSION

The yardstick by which we assess the petitioner's APA and *Chevron* challenges to the 1996 Type A rule is the one we used in *Colorado*:

> We review DOI's type A rules, promulgated after informal notice and comment rulemaking procedures under the Administrative Procedure Act, *see* 5 U.S.C. § 553(c), under the familiar "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" standard, *see id.* § 706(2)(A). Under this standard, we are mindful a reviewing court is "not to substitute its judgment for that of the agency." *Citizens to Preserve Overton Park v. Volpe,* 401 U.S. 402, 416, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971).
>
> Moreover, it is well-established that when presented with "a pure question of statutory construction," a reviewing court's "first job is to try to determine congressional intent using 'traditional tools of statutory construction,' " *NLRB v. United Food & Commercial Workers, Local 23,* 484 U.S. 112, 108 S.Ct. 413, 421, 98 L.Ed.2d 429 (1987) (quoting *INS v. Cardozo-Fonseca,* 480 U.S. 421, 107 S.Ct. 1207, 1221, 94 L.Ed.2d 434 (1987)), for if "Congress has directly spoken to the precise question at issue," then "the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress," *Chevron U.S.A., Inc. v. NRDC,* 467 U.S. 837, 842-43, 104 S.Ct. 2778, 2781-82, 81 L.Ed.2d 694 (1984). If, however, "the statute is silent or ambiguous with respect to the specific issue," *id.* at 843, 104 S.Ct. at 2782, then the question becomes whether the agency charged with implementing the statute—DOI in this case—has made a

> "reasonable" interpretation, *id.* at 845, 104 S.Ct. at 2783, i.e., one that is "rational and consistent with the statute." *United Food & Commercial Workers,* 108 S.Ct. at 421.

880 F.2d at 486.

Thus, in reviewing an APA challenge to an agency's technical judgments incorporated in a submodel, "the agency's choice of model and its application must be respected when the record discloses that the agency examined the relevant data and articulated a reasoned basis for its decision." *Ohio II,* 880 F.2d at 479. Similarly, when reviewing an agency's technical judgments under step two of *Chevron,* we ask whether the agency's choices are "reasonable and consistent with congressional intent, and therefore worthy of deference." *Id.* at 477; *accord Kennecott Utah Copper Corp. v. DOI,* 88 F.3d 1191, 1225 (D.C. Cir. 1996) (noting need to "defer to the agency's decision about how to strike th[e] balance" between conflicting statutory and policy goals "unless [the decision] is unreasonable"). Moreover, in applying both of these standards to the scientific judgment of an agency, we do not "review scientific judgments of the agency ... as the chemist, biologist, or statistician that we are neither qualified by training nor experience to be, but as a reviewing court exercising our narrowly defined duty of holding agencies to certain minimal standards of rationality," *Troy Corp. v. Browner,* 120 F.3d 277, 283 (D.C. Cir. 1997) (internal quotation marks omitted), or, in the context of *Chevron* step two, assuring at a minimum the reasonableness of the judgment in light of the requirements imposed (or discretion granted) by the authorizing statute.

A. Verification of Injury and Causation

NAM first argues that DOI's Type A rule, which relies on computer submodels to calculate the types and amounts of damages that are rebuttably presumed to result from a particular release, violates subsections 107(a)(C) and 301(c)(1) of CERCLA, which limit recovery to damages "resulting from a release." 42 U.S.C. §§ 9607(a)(C), 9651(c)(1). Since DOI's computer submodels require only limited, site-specific data to

calculate damages, NAM contends that they improperly relieve the trustee of its burden to demonstrate that a particular release in fact caused injury to a specific natural resource. Further, NAM reasons that even if such submodels could in theory be used to calculate NRD, the submodels DOI has developed are too crude to reliably predict injuries to natural resources that are likely to "result from" releases and are therefore inconsistent with the command of subsection 301(c)(2) to "identify the best available procedures to determine ... damages." *See Ohio II,* 880 F.2d at 462 ("Congress directed DOI to select ... 'best available' methodologies for determining damages, 42 U.S.C. § 9651(c)(2), and a procedure that permitted unduly speculative assessments would not fulfill this intent."). We reject both arguments on their merits.

(1) Timeliness of challenge

DOI first responds that NAM's challenge is time-barred under section 113(a) of CERCLA, 42 U.S.C. § 9613(a), which requires that a petition for review of a final regulation be brought "within 90 days from the date of [its] promulgation." DOI reasons that since its 1987 Type A rule relied on the same kind of predictive computer submodels to establish causation and injury, NAM's challenge now is untimely because it should have been brought, if at all, in 1987. DOI is mistaken.

While an agency need not subject settled policy or established statutory interpretation to renewed legal challenge whenever it revises a regulation, "the period for seeking judicial review may be made to run anew when the agency in question by some new promulgation creates the opportunity for renewed comment and objection." *Ohio v. EPA,* 838 F.2d 1325, 1329 (D.C. Cir. 1988) [hereinafter *Ohio I*]. Thus, in *Ohio I* we held that, although the petitioner had an opportunity to comment on the relevant provision in the original regulation, it was not barred from challenging the provision in the revised regulation because the agency had republished the provision, explained it anew and responded to at least one

comment directed to it. *Id.* at 1328-29; *see also Kennecott,* 88 F.3d at 1213 ("[J]udicial review of longstanding regulation is not barred when an agency reopens an issue covered in, or changes its interpretation of, that regulation; *e.g.,* if an agency in the course of a rulemaking proceeding solicits comments on a pre-existing regulation or otherwise indicates its willingness to reconsider such a regulation by inviting and responding to comments, then a new review period is triggered."). However, "[t]he 'reopening rule' of [*Ohio I*] is not a license for bootstrap procedures by which petitioners can comment on matters other than those actually at issue, goad an agency into a reply, and then sue on the grounds that the agency had re-opened the issue." *American Iron & Steel Inst. v. EPA,* 886 F.2d 390, 398 (D.C. Cir. 1989), *cert. denied,* 497 U.S. 1003 (1990). Thus, "when the agency merely responds to an unsolicited comment by reaffirming its prior position, that response does not create a new opportunity for review." *Kennecott,* 88 F.3d at 1213.

Moreover, "the appropriate way to challenge a longstanding regulation on the ground that it is 'violative of statute' is ordinarily 'by filing a petition for amendment or rescission of the agency's regulations, and challenging the denial of that petition.' " *Id.* at 1214 (quoting *Public Citizen v. Nuclear Regulatory Comm'n,* 901 F.2d 147, 152 (D.C. Cir.), *cert. denied,* 498 U.S. 992 (1990)). But "where an agency reiterates a rule or policy in such a way as to render the rule or policy subject to renewed challenge on any substantive grounds, a coordinate challenge that such a rule or policy is contrary to law" need not proceed by amendment or rescission petition. *Public Citizen,* 901 F.2d at 152-53. In such circumstances, to require that an administrative petition precede the "coordinate challenge" to the lawfulness of the agency's provision "would be a waste of time and resources." *Kennecott,* 88 F.3d at 1214.

An agency may be deemed to have "constructively reopened" a previously unchallenged decision if its original rulemaking did not give adequate notice or incentive to

contest the agency's decision. For example, as a result of the partial invalidation of the 1986 Type B rule in the *Ohio II* litigation,

> our invalidation of that rule might have changed the stakes of a court challenge. In this situation, we would likely hold that Interior's adherence to its resolution of certain issues that arose in the course of the 1986 proceeding was, even if not expressly reopened in its 1994 rulemaking, constructively reopened by the change in regulatory context. For us to foreclose review of the agency's decision to adhere to the *status quo ante* under changed circumstances, on the grounds that the agency had not evidenced a willingness to reconsider the issue, would be to deny the significance of our own earlier ruling.

Kennecott, 88 F.3d at 1214. Thus, "[b]efore any litigant reasonably can be expected to present a petition for review of an agency rule, he first must be put on fair notice that the rule in question is applicable to him." *Recreation Vehicle Indus. Ass'n v. EPA,* 653 F.2d 562, 568 (D.C. Cir. 1981). Accordingly, in *Recreation Vehicle* the court held that because it was unclear that EPA's final rule on noise emission levels for medium and heavy trucks applied to motor homes, "[t]he agency cannot now take advantage of the obscurity of its intentions in order to defeat [the petitioner's] rights statutorily conferred." *Id.*

Here, DOI's substantial revisions to the Type A procedures significantly altered the "regulatory context." In particular, the circumstances in which a trustee may elect to use Type A procedures to calculate damages have been significantly modified by the 1996 revisions. For example, a trustee may now supplement Type A procedures with selected Type B protocols, it may use Type A procedures in circumstances where species mortality may not be the anticipated principal adverse effect, it may use Type A procedures even if the release does not result in closing a fishing, beach or hunting area and it

may now utilize Type A procedures for releases in both Great Lakes and coastal and marine environments. *Compare* 43 C.F.R. § 11.33 (1987) *with* 43 C.F.R. §§ 11.34, 11.35, 11.36, 11.42(b) (1996).[6] Thus, although DOI may not have intended to reopen the issue of the predictive aspect of its computer submodels' calculations of injury and causation, *see* 1996 Type A rule, 61 Fed. Reg. at 20,582, the different regulatory context wrought by the 1996 rule "significantly alter[ed] the stakes of judicial review," *Kennecott,* 88 F.3d at 1227, and thereby constructively reopened to challenge the predictive nature of the computer submodels.

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[6] *Kennecott* also holds that there is no "constructive reopening" if "parties had adequate notice of a forthcoming change that might alter their incentive to seek judicial review." 88 F.3d at 1214. There, because potential litigants were on notice during the pendency of legal challenges to DOI's Type B rule (i.e., *Ohio II*) "that restoration cost rather than market value could become the predominant basis for damage assessments," we held that litigants "had an ample incentive at that time [i.e., before 1989 decision in *Ohio II*] to protest any provision [of the 1986 Type B rule] that might inflate restoration costs." *Id.* at 1215.

This case is distinguishable. Although DOI issued an advance notice of proposed rulemaking (ANPR) for the Great Lakes procedures in June 1988 (*see* Natural Resource Damage Assessments, 53 Fed. Reg. 20,143, 20,143-46 (1988)) while our review of the 1987 Type A rule was still pending, we do not believe that the ANPR was sufficient to put NAM or other interested parties on notice that the yet-to-be-developed Type A procedures for the Great Lakes would permit calculation of NRD for a release without on-site verification of injury and causation. In contrast to the Type B provisions at issue in *Kennecott,* the Great Lakes submodels were not a part of the Type A rule that DOI initially promulgated in 1987. Thus, unlike the *Ohio II* challenge, the *Colorado* litigation did not alert NAM and other potentially interested parties that a vestigial provision of the 1987 rule might have added significance as a result of that litigation. Therefore, *Recreational Vehicles* rather than *Kennecott* supplies the rule of decision: "Before any litigant reasonably can be expected to present a petition for review, he first must be put on fair notice that the rule in question is applicable to him." 653 F.2d at 568.

(2) Merits of challenge

DOI fares better responding to the merits of NAM's challenge—that CERCLA sections 107(a)(C) and 301(c)(1) authorize a trustee to recover damages only for those injuries "resulting from ... a release"; DOI's Type A procedures permit a trustee to recover damages without any on-site, empirical verification that injury has in fact "result[ed] from" a particular release; therefore, DOI's predictive damage calculators are violative of CERCLA.

Contrary to NAM's contentions, we find nothing in the relevant provisions of CERCLA that requires greater proof of causation and injury than is provided by DOI's predictive computer submodels. Regarding causation, this court has repeatedly held that CERCLA is ambiguous on the precise question of what standard of proof is required to demonstrate that natural resource injuries were caused by, or "result[ ] from," a particular release. *See Ohio II,* 880 F.2d at 472 ("[W]hile we agree with petitioners that Congress expressed dissatisfaction with the common law as a norm in several areas of damage assessment, we conclude that CERCLA is at best ambiguous on the question of whether the causation-of-injury standard under § 107(a)(C) must be less demanding than that of the common law."); *Kennecott,* 88 F.3d at 1224 ("CERCLA left it to Interior to define the measure of damages in natural resources damage assessment cases.... While the statutory language requires some causal connection between the element of damages and the injury—the damages must be 'for' an injury 'resulting from a release of oil or a hazardous substance'—Congress has not specified precisely what that causal relationship should be.") (citation omitted).

Similarly, we find nothing in the "resulting from" language of subsections 107(a)(C) and 301(c)(1), or other provisions of CERCLA, to indicate that the Congress unambiguously intended a particular kind or quantity of causation and injury proof as a prerequisite to recovery of NRD. While we have noted that the "best available procedures" language of sub-

section 301(c)(2) indicates that it would be inconsistent with CERCLA to permit "unduly speculative assessments," *Ohio II,* 880 F.2d at 462, we have never held that simply because assessments procedures are in some measure "speculative" or "predictive" they are contrary to CERCLA's "best available procedures" admonition. Rather, predictive submodels that represent rational scientific judgments about the probability that a particular release will cause a specific type and amount of injury are consistent with the Congress's intent to develop a "standardized system for assessing such damage which is efficient as to both time and cost." S. Rep. No. 96-848, at 85 (1980); [7] *cf. Ohio II,* 880 F.2d at 455 ("[S]upport for the proposition that Congress adopted common-law damage standards wholesale into CERCLA is slim to nonexistent.").

Moreover, contrary to NAM's suggestions, the fact that the Congress may have generally viewed recovery of NRD as a "compensatory remedy"—*see* 1996 Type A rule, 61 Fed. Reg. at 20,582; 42 U.S.C. § 9607(f)(1)—does not mean that the Congress intended to require adducement of a particular quality and quantity of proof of injury, loss or destruction before allowing recovery. Rather, DOI developed the Type A procedures so that the public would be compensated for the NRD resulting from minor spills; the kind of spill ill suited for the expensive and resource-intensive Type B procedures. *Cf.* 1996 Type A final rule, 61 Fed. Reg. at 60,572 ("Because of the cost involved in performing site-specific type B studies, trustees have rarely pursued damage claims for minor releases.").

Accordingly, we proceed to the second step of the *Chevron* analysis, where "we ask whether [DOI] has adopted a reasonable interpretation of the statute—that is whether the agency considered the matter in a detailed and reasoned fashion and whether the interpretation is arguably consistent with the underlying statutory scheme in a substantive sense." *Kenne-*

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[7] As we observed in *Colorado,* "[b]ecause the House concurred in the Senate bill [that became CERCLA] without amendment, *see* 126 Cong. Rec. 31,950-82 (1980), th[is] Senate report is powerful evidence of congressional intent." 880 F.2d at 487.

cott, 88 F.3d at 1206 (internal quotations omitted); *accord Ohio II,* 880 F.2d at 441 ("If ... the statute is ambiguous or silent on a particular issue, this court must assume that Congress implicitly delegated to the agency the power to make policy choices that represent a reasonable accommodation of conflicting policies that are committed to the agency's care by the statute.... In that event, the court must defer to the agency's interpretation of the statute so long as it is reasonable and consistent with the statutory purpose.").[8] According DOI's interpretation the deference it is due under *Chevron* step two, we conclude that DOI's reliance on predictive computer submodels to establish causation and injury is both reasonable and consistent with the commands of CERCLA.

Subsection 301(c)(2), 42 U.S.C. § 9651(c)(2), the only CERCLA provision that speaks directly to the form and content of Type A procedures, states that the "regulations shall specify ... *standard* procedures for *simplified* assessments requiring *minimal* field observation, including establishing measures of damages *based on units of discharge or release or units of affected area* ...." (emphasis added).

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[8] Nor can our decision in *General Electric Co. v. United States Department of Commerce,* 128 F.3d 767 (D.C. Cir. 1997), be read to require a different conclusion here. In *General Electric* we were asked to pass on the National Oceanic and Atmospheric Administration's (NOAA's) regulation regarding NRD claims for releases of oil or petroleum products covered by the Oil Pollution Act of 1990 (OPA). While we upheld NOAA's determination that its computer submodels should be " 'reliable and valid for the particular incident,' " 128 F.3d at 772 (quoting 15 C.F.R. § 990.27(a)(3)), we did not conclude that such validation procedures were a necessary feature of the regulations authorized by OPA, nor did we suggest that the related but independent regulatory scheme established by CERCLA contained any such requirement. Further, although we briefly noted that NOAA's regulations provided a sufficient standard by which to assess the agency's exercise of discretion in calculating damages from oil releases, 128 F.3d at 778-79, we did not suggest that such a provision was essential for a court to assess the reasonableness and accuracy of damage calculations.

DOI's Type A submodels appear consistent with the charge to develop standardized and simplified assessment procedures that require minimal field observation and that estimate damages according to the type, amount (i.e., "units of discharge or release"), location (i.e., "units of affected area") and other objective characteristics of a release. As DOI itself observed, "[i]nherent in the concept of developing unit values from existing studies is the notion of making assumptions in the absence of empirical data and applying average values across a range of nonidentical items." 1996 Type A rule, 61 Fed. Reg. at 20,571. The Senate committee that favorably reported on the Senate bill that became CERCLA also envisioned streamlined Type A procedures that would "require as little fieldwork as possible, and rely on a combination of habitat values, tables of values for individual species, and previously conducted surveys and laboratory studies, related to units of discharge or units of affected area." S. Rep. No. 96-848, at 86; *cf. Colorado,* 880 F.2d at 489-90 (declining to "second-guess DOI's technical determination" to use computer submodels, notwithstanding legislative history indicated use of tables would be consistent with congressional intent). Thus, DOI's interpretation of subsection 301(c)(2)(A) to permit the use of predictive computer submodels to determine causation and injury is plainly reasonable. To the extent that the "resulting from" language of subsections 107(a)(C) and 301(c)(1) suggests a need for more definite proof of injury and causation than is suggested by subsection 301(c)(2)(A), we find that DOI's decision to address the potential inconsistency in legislative purpose by development of predictive computer submodels is "a reasonable accommodation of conflicting policies that are committed to the agency's care by the statute." *Ohio II,* 880 F.2d at 441.[9]

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[9] DOI explained its resolution of the potentially conflicting commands of subsections 107(a)(C), 301(c)(1) and 301(c)(2)(A) as follows:

> There is a tension between the statutory provision requiring trustees to demonstrate that injury "resulted from" a release and the provision requiring the development of simplified assessment procedures that involve "minimal field observation." As noted in the cases cited by commenters, the requirement

Nor is NAM's assertion that it is unreasonable for DOI to require site-specific verification of damage, i.e., a "reality check," for its Type B procedures but not for its Type A procedures persuasive. The assertion ignores the significant differences between Type A and Type B procedures that both the text and the history of CERCLA affirm. In contrast to the "standard[ized]" procedures called for in subsection 301(c)(2)(A), the Type B procedures are "for conducting assessments in *individual* cases to determine the type and extent of short- and long-term injury, destruction, or loss." 42 U.S.C. § 9651(c)(2)(B) (emphasis added). The legislative history of subsection 301(c)(2) indicates that the Type A procedures are intended "to effectively deal with damage assessment in most 'minor' releases of hazardous material," S. Rep. No. 96-848, at 86 (1980), whereas the Type B proce-

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> that trustees demonstrate that injury resulted from the release indicates that Congress intended that natural resource damage liability be compensatory. PRPs are to be held liable not just because they are responsible for a release but because they are responsible for a release that caused an adverse effect. On the other hand, by requiring the development of type A procedures, Congress recognized that assessment work can be expensive and time consuming. In the case of minor releases, it is often not cost-effective or feasible to conduct more than minimal field observations. The Department has struggled to resolve the tension between these two statutory requirements by developing Type A procedures that rely on computer models to predict actual site-specific effects to the maximum extent practicable but do not require on-site verification of the models' injury predictions.
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> In fact, as discussed above, the legislative history of CERCLA suggests that the Department would have been justified in developing a look-up table or compensation formula as a type A procedure. Instead, the type A models use both site-specific information provided by the trustees and biological and environmental information about the spill site contained in the database to approximate more precisely the actual effects of the release.

1996 Type A rule, 61 Fed. Reg. at 20,581-82.

dures are needed to address "large or unusually damaging releases and would be used to guide the site-specific damage assessment," *id.* We therefore agree with DOI that the text and the history of subsection 301(c)(2) fully support its decision to insist on a "reality check" only when the more extensive and individually-tailored Type B procedures are used.

In addition, the restrictive interpretation of subsections 107(a)(C) and 301(c)(1) that NAM urges here ignores the purpose and effect of subsection 301(c)(2), which plainly intends a distinction between the two types of procedures. As we have repeatedly counseled, such an interpretation, which essentially deprives one provision of its meaning and effect so that another provision can be read as broadly as its language will permit, is inconsistent with the Congress's intent as well as our *Chevron* analysis. *Cf. Halverson v. Slater,* 129 F.3d 180, 185 (D.C. Cir. 1997) (rejecting agency interpretation of its general delegation provision because interpretation would render more specific and directly applicable delegation provision meaningless); *Watt v. Alaska,* 451 U.S. 259, 267 (1981) ("We must read the statutes to give effect to each if we can do so while preserving their sense and purpose."). Thus, NAM's suggested resolution of the potential conflict in purpose posed by subsections 107(a)(C), 301(c)(1) and 301(c)(2), would once again improperly call for us to give the "resulting from" language of subsections 107(a)(C) and 301(c)(1) a more restrictive meaning than the Congress intended. *Cf. Ohio II,* 880 F.2d at 446 n.14 ("Industry Intervenors advance a related argument, to the effect that Congress' choice of the word 'damages' in § 107(a)(C) should be read to incorporate the common-law meaning of the term. In the first place, this argument loads a great deal of baggage onto an everyday word which has long since transcended its origins and is now defined in Webster's Dictionary as 'compensation in money imposed by law for loss or injury.' ... Moreover, as our examination of CERCLA's legislative history indicates, ... Congress' dissatisfaction with the common law provided a central motivation for enacting CERCLA.") (internal citations omitted). Accordingly, given the interrelated and cross-

referenced nature of CERCLA subsections 107(a)(C), 107(f)(1), 301(c)(1) and 301(c)(2), we find that DOI's decision to require a "reality check" for Type B but not for Type A procedures reads the provisions in an appropriately harmonious way. *Cf. id.* at 447 ("Indeed, the fact that subsection (f)(1) itself explicitly cross-references subsection (a)(C) as the source of liability indicates Congress' conscious design to read the two subsections as compatible and complementary: liability for 'damages is established in subsection (a)(C), while subsection (f)(1) orders DOI not to place a restoration-cost ceiling on the 'measure of damages.' ").

NAM's other arguments, attacking the accuracy and reliability of the submodels' predictions of injury and causation, are equally unpersuasive. In *American Iron & Steel Institute v. EPA,* 115 F.3d 979 (D.C. Cir. 1997), we rejected a similar challenge, noting that

> [p]ossessing imperfect scientific information, [the agency] had to decide whether to proceed on that basis or invest the resources to conduct the perfect study. It chose to do the former. This is the type of decision to which this court will generally apply the deferential standard of 5 U.S.C. § 706(2)(A).... Our deference, however, is not without limits. The agency's choice will be reversed as arbitrary and capricious if there is "simply no rational relationship" between the model chosen and the situation to which it is applied.

115 F.3d at 1004; *cf. Kennecott,* 88 F.3d at 1225 ("Interior has balanced the need for an early, rough estimate against the danger of that estimate being too rough. We must defer to the agency's decision about how to strike that balance unless it is unreasonable."). Because DOI's Type A submodels are at least as scientifically rational and sophisticated as those we upheld in *American Iron,* we find no merit in NAM's contentions that the submodels permit "unduly speculative assessments" in contravention of the requirement that DOI "identi-

fy the best available procedures" for the calculation of NRD.[10]

Finally, we note that nothing in the Type A regulations prevents a PRP that believes the submodels have erroneously found injury and causation from contesting the submodels' calculations—either with its own site-specific studies or with other evidence that calls into question the predictive calculations of the submodels. The Type A rule also enables a PRP that suspects that a Type A assessment overstates the actual loss to insist on Type B procedures. *See* 43 C.F.R. § 11.35(b). Indeed, DOI revised its final rule

> to require trustees to perform a preliminary application of the model and make the results available for public comment before presenting a damage claim. Therefore, PRPs will have an opportunity to evaluate the injury projections. They can then decide whether they have information that indicates that the projections are wrong and that the user inputs need to be modified or that type B procedures should be used.

1996 Type A rule, 61 Fed. Reg. at 20,582.

B. Replacement and Acquisition Alternatives

NAM next argues that CERCLA subsections 107(f)(1) and 301(c)(2) require that Type A procedures consider the costs of "replacement" or "acquisition of equivalent resources." [11] Be-

[10] The computer submodels, contrary to NAM's assertions, do not dispense with all "field observation" and thereby render superfluous the Congress's expectation that Type A procedures will require "minimal field observation." Rather, for each release a number of site-specific variables must be collected and analyzed in order to compute damages. While DOI "interprets 'minimal field observations' to be information that is readily or routinely collected following a release," 1996 Type A rule, 61 Fed. Reg. at 20,582, the fact that it is "readily or routinely collected" does not make it any less site- or incident-specific. Moreover, as discussed above, the Type A submodels contain certain safeguards so that they will not be applied when environmental or other assumptions do not reflect actual conditions as of the date of the release. *See supra* Part I.

[11] In relevant part, subsection 107(f)(1) provides:

cause DOI's computer submodels do not expressly consider these costs in their NRD calculus, NAM contends that we must vacate the Type A rule. We disagree.

The subsection 107(f)(1) spending limitation—i.e., recoveries "shall be retained ... for use only to restore, replace, or acquire the equivalent" of affected resources—does not mean that a trustee must consider each of the alternative measures of damages in calculating NRD. *Cf. Kennecott,* 88 F.3d at 1230 ("Although ... spending priorities may, in turn, imply a hierarchy in the way trustees should assess damages in the first place, we do not find [in either the text of 107(f)(1) or in] the committee report a sufficiently clear statement of Congressional intent necessary to resolve this issue under *Chevron* step one."). Indeed, the very next sentence of subsection 107(f)(1) declares that "[t]he measure of damages ... shall not be limited by the sums which can be used to restore or replace" injured resources, which "carries in it an implicit assumption that restoration cost will serve as the basic measure of damages in many if not most CERCLA cases." *Ohio II,* 880 F.2d at 446.

More troublesome for DOI, however, is subsection 301(c)(2), which requires that the Type A and B regulations "take into consideration factors including, but not limited to, *replacement value,* use value, and ability of the ecosystem or

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> Sums recovered by the United States Government as trustee under this subsection shall be retained by the trustee, without further appropriation, for use only to restore, replace, or acquire the equivalent of such natural resources. Sums recovered by a State as trustee under this subsection shall be available for use only to restore, replace, or acquire the equivalent of such natural resources by the State. The measure of damages in any action under subparagraph (C) of subsection (a) of this section shall not be limited by the sums which can be used to restore or replace such resources.

42 U.S.C. § 9607(f)(1) (emphasis added). The pertinent language of subsection 301(c)(2) recites that Type A and B regulations "shall take into consideration factors including, but not limited to, replacement value, use value, and ability of the ecosystem or resource to recover." 42 U.S.C. § 9651(c)(2) (emphasis added).

resource to recover." [12] 42 U.S.C. § 9651(c)(2) (emphasis added). Absent from the list is "acquisition value," whose inclusion would strengthen the similarity to the spending limitation imposed by CERCLA subsection 107(f)(1). Nonetheless, we agree with DOI that the list may reasonably be read to require only that a number of different kinds of values for particular injury components be considered. Indeed, in *Ohio II,* we noted that subsection 301(c)(2) gave DOI discretion to fashion an appropriate measure of damages in a particular case although the discretion was circumscribed by the Congress's evident intent "that the measure of damages reflect a preference for restoration costs, at least where restoration is feasible and can be performed at a cost not grossly disproportionate to the use value of the resource." 880 F.2d at 446; *cf.* S. Rep. No. 96-848, at 86 ("There is a need for maximum flexibility in the rulemaking proceeding, so that free scientific discussion will result. Only through this type of discussion will the agencies be adequately prepared to select the most accurate and credible damage assessment methodologies available."). In light of the legislative intent to confer discretion as to the choice of an appropriate measure of damages, we assess DOI's interpretation of subsection 301(c)(2) under step two of *Chevron.*

DOI has defined certain key terms in its regulations:

> *Injury* means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil or release of a hazardous substance, or exposure to a product of reactions resulting from the discharge of oil or release of a hazardous substance. *As used in this part, injury encompasses the phrases "injury," "destruction," and "loss."* ...
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> * * *

[12] NAM does not argue that the Type A rule omits consideration of "use value," which is apparently provided by the Compensable Value Submodel. *See* 1996 Type A rule, 61 Fed. Reg. at 20,566-67.

> *Replacement* or *acquisition of the equivalent* means the substitution for an injured resource with a resource that provides the same or substantially similar services....
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> * * *
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> *Restoration* or *rehabilitation* means actions undertaken to return an injured resource to its baseline condition, as measured in terms of the injured resource's physical, chemical, or biological properties or the services it previously provided....

43 C.F.R. §§ 11.14(v) (emphasis added), 11.14(ii), 11.14(ll) (1996).[13] Relying on these definitions, DOI contends that its Restoration Submodel—which considers the costs and benefits of replacing an injured resource (e.g., restocking fish) against the costs and benefits of restoring the resource through natural recovery (e.g., allowing spawning and other

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[13] While DOI's regulations equate replacement with acquisition, the Congress apparently believed that the terms as used in CERCLA subsection 107(f)(1) had somewhat different meanings:

> [T]he primary purpose of the resource damage provisions of CERCLA is the restoration or replacement of natural resources damaged by unlawful releases of hazardous substances. However, ... a situation could arise in which the amount of damages caused by a release of hazardous substances is in excess of the amount that could realistically or productively be used to restore or replace those resources....
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> The Committee therefore intends [that] any excess funds recovered shall be used, in such an instance, for the third purpose spelled out in the language of the amendment, which is 'to acquire the equivalent of the damaged resource.' ... The Committee expects that any such acquisition would provide resources of an equivalent nature at a location as near as reasonably possible to the site at which the damages occurred.

H.R. Rep. No. 99-253, pt. 4 at 50 (1985). Because we conclude that subsection 107(f)(1) does not speak directly to the issue of whether the Type A procedures must consider replacement and acquisition values when calculating damages under subsection 301(c)(2), however, we do not find in this passage an intent to assign replacement and acquisition independent meanings in subsection 301(c)(2).

natural processes to replace destroyed fish stocks)—satisfies the subsection 301(c)(2) requirement that the Type A regulations consider "replacement value." [14] *See, e.g.,* The CERCLA Type A Natural Resource Damages Assessment Model for Coastal and Marine Environments, Technical Documentation, Vol. 1, § 5.4.3. DOI therefore reasons that its decision not to develop independent Replacement and Acquisition Submodels for its Type A calculations does not render its rule defective but merely less ambitious than it might have been—which, as we have previously held, is not a ground for reversal. *See Colorado,* 880 F.2d at 486 ("Despite the limited scope of the type A rules, DOI's actions are a sustainable response to an ambiguous statutory mandate in an area of scientific uncertainty.").

NAM, on the other hand, contends that DOI's consideration of replacement values is insufficient to satisfy subsection 301(c)(2) and, in any event, DOI's computer submodels do not meet the requirements of subsection 107(f)(1) because they wholly fail to consider acquisition values. Regarding the latter, because the Congress has omitted any reference to acquisition values in subsection 301(c)(2), DOI reasonably accords significance to the omission and interprets it not to require consideration of off-site, acquisition alternatives to restoration. Nor can our decision in *Colorado* be read to command a different result. There, we held that DOI's failure to include "*replacement* or *restoration* values in its type A procedures" contravened "the clear mandate of Congress as interpreted in *Ohio*." 880 F.2d at 491 (emphasis added). We did not then, and we do not now, conclude that subsections 301(c)(2) and 107(f)(1) require the regulations to consider acquisition values.

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[14] Replacement or acquisition may be the only feasible remedies if the natural resources have been destroyed or irreparably injured. *See* 1996 Type A rule, 61 Fed. Reg. at 20,601 ("[T]he model calculates a loss and allows only one-to-one replacement, with correction for restocking survival, of missing individuals.... The [habitat restoration] models assume that all fish and shellfish killed are restocked, if stocks are available.") (emphasis added; quoted sentences from responses to two different comments).

Finally, although DOI's final rule does an imperfect job of explaining how its Type A procedures incorporate consideration of replacement values—which it seems to refer to as "active habitat restoration" costs, *see* 1996 Type A rule, 61 Fed. Reg. at 20,601-02—any explanatory deficiencies can be remedied by DOI at the next biennial review. Accordingly, we conclude that DOI's Type A rule satisfies the requirement of subsection 301(c)(2) that it "take into consideration ... replacement value." Consistent with our earlier holding, its interpretation ensures "that the measure of damages reflect a preference for restoration cost, at least where restoration is feasible and can be performed at a cost not grossly disproportionate to the use value of the resource." *Ohio II,* 880 F.2d at 446.

C. Relation of Restoration Actions to Resource "Services"

NAM next asserts that DOI's Type A submodels are arbitrary and capricious—i.e., violate 5 U.S.C. § 706(2)(A)—because they do not evaluate restoration alternatives in terms of the effect such action may (or may not) have on natural resource "services." *See supra* note 4. As DOI properly notes, however, NAM failed to raise this argument in the rulemaking proceedings below, and we find no reason to excuse NAM's failure to exhaust its administrative remedies.

NAM contends that because the relationship between services and restoration was "a general point applicable to any NRD assessment," because it "had been emphasized repeatedly in prior rulemakings," because comments in the rulemaking regarding the Compensable Value Submodel indicated that the relationship between resource services and NRD was essential in developing "nonconsumptive wildlife values" and because "other documents in the record highlighted the services concept," DOI was given a "fair opportunity" to consider the issue below. Failing that, NAM argues that we should exercise our discretion and excuse NAM's failure to exhaust. NAM Reply Br. at 10-11.

The fact that, buried in hundreds of pages of technical comments NAM submitted, some mention is made of the resource services concept and its relation to compensable values (rather than restoration alternatives) is insufficient to preserve the issue for review on appeal. "Our cases ... require complainants, before coming to court, to give the [agency] a *fair opportunity* to pass on a legal or factual argument." *Washington Ass'n for Television & Children v. FCC,* 712 F.2d 677, 681 (D.C. Cir. 1983) (emphasis added; quotation marks omitted); *accord Omnipoint Corp. v. FCC,* 78 F.3d 620, 635 (D.C. Cir. 1996) ("As a general rule, claims not presented to the agency may not be made for the first time to a reviewing court."); *United States v. L.A. Tucker Truck Lines,* 344 U.S. 33, 37 (1952) ("Simple fairness ... requires as a general rule that courts should not topple over administrative decisions unless the administrative body not only has erred but has erred against objection made at the time appropriate under its practice."). Thus, we decline to find that scattered references to the services concept in a voluminous record addressing myriad complex technical and policy matters suffices to provide an agency like DOI with a "fair opportunity" to pass on the issue.

Nor do we find any ground to excuse NAM's failure to urge its objection below. The fact that the *Kennecott* decision was not known on the date the comment period closed is unavailing. *Kennecott* did not suggest a new basis for challenging DOI's Type A rule; it simply reaffirmed that an agency's regulations must be internally consistent to guard against double recovery. 88 F.3d at 1220 ("In invalidating the regulations, we do not mean to suggest that *CERCLA* requires or forbids any particular measure of damages. The problem here *is not* with the standard adopted, but with the consistency between the language of the regulations and the preamble's explanation of what Interior did.") (emphasis added).[15]

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[15] *American Maritime Association v. United States,* 766 F.2d 545, 566 n.30 (D.C. Cir. 1985), is inapposite. There the agency made a significant change between its proposed rule and the final interim rule and thus the complainant did not have the opportunity

D. Lost Assimilative Capacity

Continuing its attack on the content and function of DOI's Restoration Submodel, NAM next argues that DOI's inclusion of calculations for lost "assimilative capacity"—i.e., the pre-release ability of an environment "to repair itself by digesting, degrading, transforming, absorbing, or otherwise eliminating the pollutants placed in it," 1996 Type A rule, 61 Fed. Reg. at 20,599—contravenes CERCLA. It contends that such losses are "unduly speculative" because there may never be another release of the same or similar hazardous substances in the affected environment and, even if they are not overly speculative, DOI's calculation methodology is fundamentally flawed. Both contentions are without merit.

Subsection 301(c)(2) requires the Type A and Type B regulations to "take into consideration ... [the] ability of the ecosystem or resource to recover." 42 U.S.C. § 9651(c)(2). Consideration of lost assimilative capacity meets the command by assessing the cumulative effects a release may have on a resource's ability to recover and by preventing erosion of baseline conditions. Thus, DOI's interpretation of subsection 301(c)(2) to permit assessment of lost assimilative capacity damages is plainly not unreasonable and instead is consistent with (if not required by) the Congress's intent to recover for the full damages resulting from a release. *See Ohio II,* 880 F.2d at 464 (CERCLA intends recovery for all properly calculated losses and all kinds of losses reasonably ascribed to release); *Colorado,* 880 F.2d at 490-91 (similar); *cf.* S. Rep. No. 96-848, at 14 (one reason CERCLA was enacted was shortcomings of common law and statutory remedies in recovering full compensation). Moreover, contrary to NAM's contentions, the stand-by nature of the resource service does not make it speculative: "The assimilation of pollutants is a real service provided by natural resources and is well-founded in scientific literature." 1996 Type A rule, 61 Fed. Reg. at 20,599. Indeed, the fact that such assimilative capacity ser-

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to object to the change before seeking judicial review. Here nothing in the services-restoration relationship was substantively

vice may be called on only in the contingency of a future release does not render the losses any more speculative than other kinds of contingent losses for which damages may be assessed. *Cf. Ohio II,* 880 F.2d at 474-81 & nn.72-77 (upholding use of contingent valuation methodologies, including assessments of option and existence values, assuming resources may never be visited or used but recognizing standby value to their existence); *General Elec. Co. v. United States Dep't of Commerce,* 128 F.3d 767, 772-74 (D.C. Cir. 1997) (upholding NOAA's use of contingent valuation methods in which individuals assign value to resources "even if they never plan to make active use of them").[16]

Nor do we find error in DOI's decision to calculate the monetary loss resulting from a diminution in assimilative capacity by extrapolating from the costs of dredging contaminated sediment in a nearby area. The standardized and simplified nature of Type A procedures necessarily dictates that they rely on data extrapolations to assign values to particular items of loss. Thus, while we agree with NAM that (for example) using dredging cost figures from Green Bay to calculate restoration costs in Chicago may not be the most accurate method of calculating costs, it is neither unreasonable nor arbitrary and capricious in the context of Type A assessments. Moreover, the alternative that NAM apparently urges—barring recovery for such loss absent specific data on restoration costs for each potential release site—is incon-

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altered between the notice of proposed rulemaking and the final rule.

[16] In addition, the amended Type A rule does not permit recovery of lost assimilative capacity in every circumstance. Loss is calculated "only when there are releases that generate economic damages related to mortality or loss of production." *See* 1996 Type A rule, 61 Fed. Reg. at 20,599. While an initial programming error permitted the calculation of such loss in cases where the submodels predicted no damages related to mortality or loss of production, DOI has since corrected the error. *See* Revisions to 1996 Type A rule, 62 Fed. Reg. at 60,457-58. Thus, NAM's suggestion that including lost assimilative capacity in the submodels ensures per se damages in the event of a release is mistaken; only if mortality and production thresholds are exceeded will assimilative capacity loss be included in the damages claim.

sistent with the remedial objectives of CERCLA and requires that Type A procedures provide greater precision in their loss measurements than CERCLA can reasonably be deemed to require.[17]

E. Economic Rent for Commercial Fishing and Hunting Losses

NAM next assails DOI's inclusion of "economic rent" losses in its Compensable Value Submodel.[18] Its main argument is

[17] Nor does this conclusion make a PRP an insurer for future releases as NAM contends. Each subsequent PRP will be responsible for restoring assimilative capacity losses caused by a release for which it is liable under 42 U.S.C. § 9607(a). Were we to adopt NAM's interpretation, future PRPs would be responsible for losses to natural resources that were greater (because of decreased assimilative capacity caused by predecessor PRP) than they might otherwise have been. We can find nothing, nor has NAM referred us to anything, in CERCLA that requires DOI to favor the current PRP over a future PRP. Again, the fact that traditional tort remedies might suggest a different allocation of risks is not dispositive: "We have already noted our disagreement with the proposition that the strictures of the common law apply to CERCLA." *Ohio II,* 880 F.2d at 476.

[18] "Economic rent" in this context does not refer to profits earned in non-competitive markets. Rather, DOI defines "economic rent" as "the excess of total earnings of a producer of a good or service over the payment required to induce the producer to supply the same quantity currently being supplied." Natural Resource Damage Assessments, 51 Fed. Reg. 27,674, 27,691 (1986); 1996 Type A rule, 61 Fed. Reg. at 20,603 ("In other words, economic rent for commercially harvested resources is the fee that commercial harvesters could pay to the government and still find the harvesting economically feasible.").

Because DOI assumes that the small releases for which Type A procedures may be used will generally not cause commercial hunters and fishers to abandon or downsize their enterprises, any harvesting losses produced by a release will in fact represent "economic rent." *See* 1996 Type A rule, 61 Fed. Reg. at 20,604. NAM does not challenge the reasonableness of the assumption and

that commercial fishing and hunting losses are injuries of a "private" nature for which CERCLA does not permit recovery. According to NAM, recovery for such losses, under the guise of seeking compensation for losses of imputed rent that a trustee might collect for the privilege to fish and hunt, is *ultra vires*. Further, NAM contends that "DOI's calculation of the amount of damages resulting from lost economic rent is based on wholly speculative assumptions." NAM Br. 37. DOI's responses are twofold: (1) NAM's challenge is time-barred because economic rent losses have been a feature of DOI's Type B rules since 1986 and were a feature of DOI's 1987 Type A rule; and (2) NAM's arguments are based on the mistaken premise that all commercial hunting and fishing losses represent "private" losses.

DOI's timeliness defense fails here for the same reasons that it failed with respect to NAM's challenge to the absence of a "reality check" in the Type A procedures: the change in "regulatory context" and stakes caused by the addition of Type A procedures for Great Lakes environments and by the substantial alterations in the procedures for coastal and marine environments constructively reopened this aspect of the procedures to challenge.

Regarding the merits, NAM's challenge is apparently predicated on the assumption that because commercial fishing and hunting enterprises have heretofore not been charged fees for the full value of their entitlement to fish and hunt in public aquatic environments covered by the Type A procedures, the entitlement is a private rather than a public one. We do not agree.

It is true that CERCLA does not permit private parties to seek recovery for damages to natural resources held in trust by the federal, state or tribal governments nor does it allow public trustees to recover for damages to private property or other "purely private" interests. *See Ohio II,* 880 F.2d at 460 ("The legislative history of CERCLA further illustrates that damage to private property—absent any government involve-

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we see nothing in the record to suggest that DOI's conclusion resulting from its assumption is unreasonable either.

ment, management or control—is not covered by the natural resource damage provisions of the statute."); *Exxon Corp. v. Hunt,* 475 U.S. 355, 375 (1986) (compensation to "third parties for damage resulting from hazardous substance discharges ... [is] clearly beyond the scope of CERCLA"). Determining whether a particular loss is "private" or "public" is the task with which we are faced here.[19]

> CERCLA defines natural resources to encompass
>
> land, *fish, wildlife,* biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the fishery conservation zone established by the Magnuson-Stevens Fishery Conservation and Management Act [16 U.S.C.A. §§ 1801 *et seq.*]) any State or local government, any foreign government, any Indian tribe, or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe.

42 U.S.C. § 9601(16) (emphasis added). As noted earlier, resources must be under the stewardship of a trustee before damages can be assessed for their injury, loss or destruction. *See supra* note 1. A release of hazardous substances in the Great Lakes or covered coastal and marine environments that kills fish or game or makes it inedible or unusable for commercial or other purposes injures natural resources. *Cf. Alaska Sport Fishing Ass'n v. Exxon Corp.,* 34 F.3d 769, 773 (9th Cir. 1994) ("A state has a sovereign interest in natural resources within its boundaries.").

Because public trustees do not currently charge commercial harvesters access fees above those required to cover ad-

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[19] NAM's reliance on *Satsky v. Paramount Communications, Inc.,* 7 F.3d 1464 (10th Cir. 1993), is misplaced. The Tenth Circuit held that suits for injuries to "purely private interests" could not be barred by a state's recovery of public losses. *Id.* at 1470. It also held, however, that to the extent the "claims are for injuries to interests which all citizens hold in common, and for which the State has already recovered, the [former] judgement ... acts as a bar." *Id.*

ministrative and registration costs, NAM reasons that the harvesters have converted these public resources into private property so that any adverse effect a release may have on harvesting activities represents a "purely private" loss for which the trustee cannot recover. The fact that commercial hunting and fishing operations are not presently paying something (or at least more) for the privilege to exploit public fish and game stocks does not mean that they have converted the stocks into private property. Rather, the public custodians of the resources have determined that the public interest is served by refraining from charging the commercial enterprises for harvesting the public fish and game stocks. Thus we do not find DOI's conclusion—that if the public cannot use its resources to foster commercial enterprises, the value of the resources to the public (as well as to the enterprises) has been diminished—unreasonable. *See* 1996 Type A rule, 61 Fed. Reg. at 20,604 ("The governmental regulation of fish and wildlife harvest implies a public concern that these resources be managed in order to sustain their contribution to economic productivity.").

Nor does recovery of imputed rent losses run afoul of the subsection 107(f)(1) prohibition on double recovery. As the regulations explain, "[f]or minor releases where damages may be relatively low and data establishing injury and causation may be difficult to obtain, ... it is unlikely that commercial harvesters will go to the expense and trouble to pursue a legal claim." *Id.* at 20,604. In addition, "in some cases commercial harvesters will not have a private cause of action or their recoveries may be subject to geographic or temporal limitations." *Id.* Given the nature of the release for which damages are assessed, the likelihood of double recovery is minimal. If a commercial harvester does sue and succeeds in recovering the public's imputed rent as part of its lost profits, however, the regulations bar the trustee from including such losses in its calculation of NRD. *Id.*; 43 C.F.R. § 11.44(d) (1996). Moreover, once a state or other public trustee recovers such damages, a private party will be barred by *res judicata* from later seeking recovery for the same public losses. *See Alaska Sport Fishing,* 34 F.3d at 774 ("[T]he

United States and the state of Alaska, acting as government trustees, have already recovered for the very same damages plaintiffs now seek here.... Thus, under the doctrine of *res judicata,* plaintiffs are barred from asserting such claims in a second suit."). Accordingly, DOI's inclusion of economic rent losses in its Type A submodels cannot reasonably be deemed to pose a likely risk of double recovery.

Finally, DOI's ancillary attack on the reasonableness of the assumptions underlying the submodel's calculation of economic rents also fails. Once again, we can find nothing unreasonable or irrational in the means by which DOI's Compensable Value Submodel calculates lost economic rents resulting from a release. The fact that such imputed rents have not been collected previously does not *ipso facto* make their valuation unduly speculative as the assumption that minor spills will likely not affect commercial fishing and hunting appears reasonable. In view of an unchanged activity level, DOI's derivative conclusion that the harvesting losses represent an appropriate proxy for lost economic rent cannot be viewed as irrational. Again, in technical matters it is not our role to second guess the agency's expert judgments if they are reasonable and adequately explained. *See Troy Corp.,* 120 F.3d at 283; *American Iron & Steel,* 115 F.3d at 1004-05.

F. "Best Available Procedures" for Calculating NRD

NAM next seizes on the "best available procedures" language of subsection 301(c)(2)—i.e., the Type A and B regulations "shall identify the best available procedures to determine such [natural resource] damages, including both direct and indirect injury, destruction, or loss"—and contends that because DOI used certain inapplicable, outdated or methodologically suspect studies in developing its Type A submodels, it violated CERCLA's direction to use the "most accurate and credible damage assessment methodologies available." S. Rep. No. 96-848, at 86. NAM also suggests that because a Type A assessment enjoys a rebuttable presumption of correctness under subsection 107(f)(1), DOI is under a height-

ened obligation to demonstrate the validity and rationality of its modeling assumptions and their empirical support.[20]

Technical attacks on the Type A submodels are assessed under the deferential standard that applies when an agency's scientific and technical judgment is at issue. *See generally Troy Corp.,* 120 F.3d at 283; *American Iron,* 115 F.3d at 1004-05. The "best available procedures" language is neither defined by statute nor self-defining and so we apply *Chevron* step two in assessing whether DOI's decision to include certain studies complies with subsection 301(c)(2)'s requirement that it "identify the best available procedures." *See generally Ohio II,* 880 F.2d at 476-78 (concluding DOI's adoption of contingent valuation methodologies was "best available procedure" because "the risk of overestimation has not been shown to produce such egregious results as to justify judicial overruling of DOI's careful estimate of the caliber and worth of CV methodology").

NAM's arguments regarding the additional burden an agency bears when using calculations whose results enjoy a rebuttable presumption of correctness is beside the point because the presumption has been established by the Congress, not the agency. *See General Electric,* 128 F.3d at 771-72 ("*Chemical Manufacturers* [applicable test], however, applies only to rebuttable presumptions created by agencies and has no applicability where, as here, Congress created the presumption.").

NAM's argument is also fatally flawed because it reads "available" out of the subsection 301(c)(2) requirement to "identify the best available procedures to determine" damages, a disfavored interpretation under both *Chevron* steps. *See American Fed'n of Gov't Employees v. FLRA,* 798 F.2d 1525, 1528 (D.C. Cir. 1986); *cf. Reiter v. Sonotone Corp.,* 442 U.S. 330, 339 (1979). Thus, while the studies upon which DOI

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[20] NAM also claims that the inclusion of "lost assimilative capacity" and "economic rent" variables in the Type A submodels violates the "best available procedures" mandate. As discussed above, however, we find nothing unreasonable or otherwise insufficient in DOI's use of these variables.

relies may not use the "best" methodologies and techniques, they appear to be the "best available," which is all that CERCLA requires.[21]

DOI used a number of screening criteria that studies had to meet before they became part of its submodels' databases. *See* 1996 Type A rule, 61 Fed. Reg. at 20,571 ("The Department used only studies that: (1) Were based on an extensive literature review and consultations with relevant governmental agencies; (2) reasonably represented the natural resource and public use under investigation; (3) contributed to a reasonable representation of the different regions included in the model; (4) were conducted by a recognized university-associated researcher or established consulting firm; and (5) used appropriate valuation methodologies."). These criteria assisted DOI in determining which studies were sufficiently reliable to use in its computer submodels. Thus, DOI's decision to use studies assigning values to recreational salmon and trout fishing in several western states in order to develop comparable values for such activities in the Great Lakes region was not unreasonable in view of the fact that there were no other studies available that satisfied the screening criteria and focused on the Great Lakes. Similarly, the fact that DOI used nine freshwater fishing studies, in addition to twenty-one salt water fishing studies, to produce averaged values for recreational fishing in coastal and marine environments can hardly be viewed as irrational or unreasonable. Again, DOI reasonably determined that the "best available" values could more accurately be developed by averaging a

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[21] Had DOI chosen not to assign any values to damages because of the age, methodologies, etc. of certain studies, it would have less fully effected a fundamental purpose of CERCLA—i.e., to ensure the full recovery of the costs associated with a release of hazardous substances. *Cf. Ohio II,* 880 F.2d at 478 (concluding that in light of "CERCLA's preference for restoration" it would not make sense to insist on more stringent pre-release contingent valuation surveys to satisfy "best available procedures" requirement of subsection 301(c)(2)); *Colorado,* 880 F.2d at 490-91; S. Rep. No. 96-848, at 14 (observing one reason CERCLA was enacted is that "the compensation ultimately provided ... is generally inadequate").

broader range of values than the saltwater studies alone would have allowed.

Further, DOI's decision to arrive at average recreational values for the Great Lakes beaches by including four studies of recreational values for beaches in Hawaii and Florida, in addition to seven other studies of non-Great Lakes beach values, appears reasonable, especially given the absence of any suitable studies of Great Lakes beaches themselves. Once again, averaging values from such geographically diverse studies appears to have been a rational way in which to arrive at the "best available" values.[22]

We also find no error in DOI's decision to use older studies that rely on contingent valuation or travel cost methodologies. Again, DOI was confronted with a choice: utilization of older, less methodologically reliable studies to assign values for particular losses, guesswork to produce the appropriate values or their exclusion from its computer submodels. DOI's expert judgment that it was best to proceed in reliance on available studies is plainly a permissible interpretation of the subsection 301(c)(1) charge to "identify the best *available* procedures to determine" NRD.

We also find reasonable DOI's decision to include wildlife viewing losses in its submodels. Because no studies existed that quantified or qualified the correlation between wildlife population losses and wildlife viewing losses, DOI reasonably assumed a one-to-one, linear correlation. In the absence of any studies to suggest that such linear assumptions overstate (or understate) loss, we can find no error in DOI's determination that population losses would typically result in a corresponding loss in viewing opportunities.

Finally, we decline to second-guess DOI's technical judgments as to toxicity values for certain types of releases. *See*

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[22] Also, as noted in DOI's Brief, had the Florida and Hawaii studies been excluded, the average values in the Type A submodels would have been affected by a mere $.03 per day; hardly a basis to conclude that inclusion of the studies skewed the values in DOI's submodels. DOI Br. at 43.

Troy Corp., 120 F.3d at 283; *American Iron,* 115 F.3d at 1004-05. The fact that DOI's and NAM's experts disagree on the proper toxicity values for certain substances and concentrations does not render DOI's judgment defective.[23] *Cf. Ohio II,* 880 F.2d at 465 (rejecting challenge to use of discount rate in calculating net present value of loss because "petitioners have given us no reason to substitute our judgment for that of Interior and of the Office of Management and Budget, whose circular provided the ten percent figure chosen"). Accordingly, once again we conclude that DOI's reconciliation of the "best available procedures" language and "full recovery" goals of CERCLA is reasonable and therefore sustainable. *See Ohio II,* 880 F.2d at 441, 464.

G. Application of Type A and Type B Procedures to Same Release

NAM next challenges DOI's Type A rule because it permits trustees to use both Type A and Type B procedures to calculate NRD for the same release, which (1) violates the clearly expressed intent of the Congress that the two types of procedures be "alternative" rather than complementary procedures, (2) conflicts with the use of average valuations in the Type A computer submodels and (3) contravenes the regulatory requirement that Type B procedures not be employed to calculate compensable values until they have been validated for a specific incident by a "reality check." DOI responds that NAM's second argument is not ripe for resolution and that all of NAM's arguments are otherwise lacking in merit. We agree that NAM's arguments are without merit.[24]

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[23] NAM also criticizes DOI for including toxicity values for copper, zinc and mercury despite DOI's intent to remove such toxicity values for pure metals from its submodels' databases. *See* 1996 Type A rule, 61 Fed. Reg. at 20,591. DOI has since acknowledged the error and removed the values from its submodels. *See* Revisions to 1996 Type A rule, 62 Fed. Reg. at 60,458.

[24] DOI also appears to suggest that at least a portion of NAM's challenge is untimely because the 1987 Type A rule allowed combined use of Type A and B procedures in certain circumstances.

(1) Legislative intent and combined application of Type A and Type B procedures

Subsection 301(c)(2) of CERCLA, as discussed and quoted above (*see supra* page 5), distinguishes, both textually and structurally, between Type A "standard procedures" and Type B "alternative protocols for conducting assessments in individual cases." 42 U.S.C. § 9651(c)(2). The distinctions were intended:

> This subsection calls for the promulgation of two types of regulations. First, a simplified type of regulation [Type A] is necessary to effectively deal with damage assessment in most 'minor' releases of hazardous materials....
>
> The other type of regulations [Type B] would be employed in large or unusually damaging releases and would be used to guide the site-specific damage assessment. Such a regulation would contain protocols for field assessment of the type and extent of short- and long-term damage and methodologies for determining their value.
>
> The protocols for field assessments should provide uniform instructions that will allow for thorough site investigation in a cost-effective manner. Sampling and statistical procedures should be clearly defined. The methods for determining the geographical extent of damage should also be enumerated. It is the intent of the legislation that these protocols be designed to accommo-

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See DOI Br. 48 n.17. We reject the argument for the same reason we rejected it with respect to the challenges discussed *supra* in Parts II.A and II.E. Further, we note that the circumstances in which a combined Type A and Type B assessment may be used have been significantly expanded by the 1996 rule compared to the 1987 rule. *Compare* 1996 Type A rule, 61 Fed. Reg. at 20,610 *with* 1987 Type A rule, 52 Fed. Reg. at 9048-49. Moreover, DOI appeared to reopen the issue: "The Department explicitly limited this rulemaking to four issues: ... the conditions for combined use of type A and type B procedures;...." 1996 Type A rule, 61 Fed. Reg. at 20,570.

> date the majority of potential release sites, including coastal estuaries, open water, freshwater rivers, lakes and wetlands.

S. Rep. No. 96-848, at 86; *accord Colorado,* 880 F.2d at 487 ("[A]lthough Congress did not have a specific intent regarding the proper scope of type A rules, it envisioned generally that type A rules would cover most minor releases and type B rules would cover large or unusually damaging releases.").

Nevertheless, subsection 107(f)(2)(C) does not differentiate between the two types of procedures with respect to the rebuttable presumption: "*Any* determination or assessment of damages to natural resources ... made by a Federal or State trustee in accordance with the regulations promulgated under section 9651(c) of this title shall have the force and effect of a rebuttable presumption." 42 U.S.C. § 9607(f)(2)(C) (emphasis added). Significantly, the Congress indicated that the rulemaking required by subsection 301(c)(2) should emphasize flexibility and development of a variety of measurement tools for a trustee's use:

> Investigations by the Committee on Environmental and Public Works revealed the need for an improved, fair and expeditious *mechanism* for dealing with natural resource damages caused by releases of hazardous materials. The principal hindrance to attaining such a mechanism was the absence of a *standardized system* for assessing such damages which is efficient as to both time and cost.
>
> The reported bill provides ... that ... agencies should *standardize a process* through regulation for assessing damages to those resources. This could be done after a thorough review of alternatives for damage assessment. This approach will focus on scientific debate concerning damage assessment in the rulemaking process and result in a decision regarding the best simplified procedures for making accurate and defensible assessments of resource damages.
>
> * * *

> *The rulemaking should produce a range of products.* At one end will be simplified assessment procedures requiring a minimum of fieldwork and using a combination of habitat values, species values, and other simplified methods. Such procedures would be of value in dealing with minor releases. At the other end of the range would be damage assessment protocols to be used whenever the extent of natural resource damage is substantial and extensive fieldwork becomes necessary. The assessment procedures and protocols should include a choice of acceptable damage assessment methodologies to be employed with the evidentiary status of a rebuttable presumption accorded to the results when the protocols are followed.
>
> *There is a need for maximum flexibility in the rulemaking proceeding,* so that free scientific discussion will result. Only through this type of discussion will the agencies be adequately prepared to select the most accurate and credible damage assessment methodologies available.

S. Rep. No. 96-848, at 85-86 (emphasis added).

By using Type A procedures and selectively supplementing them with certain low-cost and expeditious Type B procedures, DOI is able to arrive at a more complete assessment of damages at less cost and in less time than a full-blown Type B assessment would likely require. *Cf.* 1996 Type A rule, 61 Fed. Reg. at 20,577 ("[T]rustees should not be forced to choose between foregoing compensation for a public loss not addressed by the type A submodel on the one hand and funding a full-scale, time-consuming, labor-intensive type B assessment of all injuries on the other hand.").

Nor does the combined use of Type A and Type B procedures pose a risk of double recovery. The regulations limit the use of supplemental Type B procedures to the determination of "damages for injuries or compensable values that do not fall into the categories addressed by the type A procedure." 43 C.F.R. § 11.36(a) (1996). In addition, a trustee who elects to use both types of procedures must document in

the Assessment Plan how double recovery is to be avoided. *Id.* § 11.36(c). Thus, if, for example, the Type A procedures have already produced a value for mortality losses, Type B procedures may not also be used to calculate that item of loss. We therefore find nothing unreasonable in DOI's interpretation of CERCLA subsection 301(c)(2) as permitting combined use of Type A and Type B procedures.[25]

(2) Average values and Type B procedures

NAM's challenge to the combination of Type B procedures and the average valuations produced by Type A procedures to arrive at a single NRD figure is, contrary to DOI's view, ripe for review. To determine ripeness we "evaluate both the fitness of the issues for judicial decision and the hardship to the parties of withholding court consideration." *Abbott Labs. v. Gardner,* 387 U.S. 136, 149 (1967). In applying the two-part test, we note that the "basic rationale" of the ripeness test is "to prevent the courts, through avoidance of premature adjudication, from entangling themselves in abstract disagreements over administrative policies, and also to protect the agencies from judicial interference until an administrative decision has been formalized and its effects felt in a concrete way by the challenging parties." *Id.* at 148-49.

NAM's claim appears to be fit for resolution now. NAM has styled its challenge as one to the lawfulness of DOI's decision under CERCLA to allow trustees to calculate NRD with combined Type A and Type B procedures and DOI's decision to permit the combination is indisputably final. *Cf.*

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[25] Nor do we find problematic the fact that the rule authorizes Type B assessments for types of losses not captured by Type A procedures. *See* 1996 Type A rule, 61 Fed. Reg. at 20,578 ("Finally, the Department believes it is appropriate to revise the existing rule to allow supplemental use of type B procedures beyond resources not addressed in the type A submodels. The public can experience significant and distinct losses associated with the same resource.... The Department sees no reason to impose an arbitrary distinction between losses associated with different resources and losses associated with the same resource so long as there is no double recovery.").

Abbot Labs., 387 U.S. at 149-50. Moreover, the effect of DOI's interpretation is sufficiently concrete and immediate to satisfy the second prong of the *Abbott Labs.* test. A trustee that complies with the criteria set forth in the regulation may now combine Type A and Type B procedures to assess natural resource damages resulting from a release and a PRP may well be required to decide whether it should force a Type B assessment or allow a supplemented Type A assessment to proceed. *Cf. id.* at 152-53 (finding that because FDA commissioner's rule, effective upon publication, required affected parties to take immediate action or face possible sanctions for non-compliance, rule's effect was "sufficiently direct and immediate as to render the issue appropriate for judicial review at this stage"). Thus, unlike the unripe challenge we rejected in *Kennecott,* 88 F.3d at 1223 ("The guidance offered [in rule's preamble] is hypothetical and non-specific; it is not crafted as a concrete rule that can be applied under identified circumstances."), here the rules are concrete, specific and immediately effective.

Nonetheless, once again, NAM's claim fails on the merits. While the Type A submodels predict losses based on certain averaged values, that does not mean that supplementing the determinations with Type B calculations for values that are not included in the Type A submodels will result in overestimation or underestimation of damages. Because each of the procedures is addressed to a different type or component of loss, averaged and non-averaged values are not being combined to arrive at a joint loss figure for a particular type or component of damages. Thus NAM's assertion that combining items of loss arrived at through averaged values with items developed with non-averaged values produces bogus total loss figures is erroneous. Indeed, without the use of supplemental Type B procedures, a trustee could recover less than the full measure of damages sustained because certain values are not covered in the Type A submodels. Therefore, the addition of supplemental Type B procedures should not alter the degree to which the total loss figures produced could underestimate or overestimate loss. Moreover, we can find nothing in CERCLA that requires the calculation of aggre-

gate NRD either with or without averaged values but not with a mixture of the two.

(3) Use of Type B procedures to assess compensable value losses without "reality check"

NAM's final argument that DOI erred in permitting the use of certain Type B procedures without requiring site-specific validation also fails. While the regulations do require that injury determination and quantification be performed anew when supplemental Type B procedures are employed to calculate items of loss other than compensable value, they do not require the same when the procedures are used to calculate compensable value losses not included in the Type A submodels. Again, this distinction reflects DOI's expert judgment that the Type A causation and loss predictions are adequate for the purposes of injury determination and quantification in the compensable value context but not in the restoration submodels. And again, we decline NAM's invitation to review expert judgments the Congress has committed to a coordinate branch of government. *See Troy Corp.,* 120 F.3d at 283; *American Iron,* 115 F.3d at 1004-05.

H. Inclusion of Non-Binding Oil Discharge Subroutines in Final Rule

Finally, NAM contends that DOI erred by retaining modeling subroutines for oil and petroleum discharges, which are now under the jurisdiction of NOAA and governed by regulations implementing OPA.[26] Because we find that NAM lacks standing to bring the claim, we do not reach the merits.

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[26] With respect to oil discharges, DOI's regulations provide:

> The Department began developing the type A procedures before the enactment of OPA and, thus, originally included both hazardous substances and oil in the [Type A] algorithms and databases. The Department has worked closely with NOAA during the development of the type A procedures. During its rulemaking, NOAA indicated it would allow use of

"[T]he standing doctrine requires would-be litigants to demonstrate an (1) injury in fact; (2) which is caused by, or is fairly traceable to, the alleged unlawful conduct; and (3) which is likely to be redressed by a favorable decision of the court." *Animal Legal Defense Fund v. Glickman,* 130 F.3d 464, ---, 1997 WL 753903, at *2 (D.C. Cir. Dec. 9, 1997). Moreover, "[t]he party invoking federal jurisdiction bears the burden of establishing these elements, ... and may not pursue its claims before the federal judiciary if it fails to demonstrate any one of them." *Id.*

NAM's claim here is that DOI could not support NOAA's rulemaking under OPA by retaining subroutines and data it had developed while it retained jurisdiction over oil and petroleum discharges because DOI had no authority to publish such material in the *Federal Register*. Rather, according to NAM, NOAA had to recreate the submodels itself and subject its version of DOI's submodels to additional notice and comment. *See* Appellant Br. 48. NAM has two standing problems with the argument. First, NAM has wholly failed to identify how it or its members have suffered injury in fact that is concrete and imminent. *See Bennett v. Spear,* 117

> the Department's type A procedures under the OPA regulations....
>
> NOAA's final rule states that trustees may use "[m]odel-based procedures, including type A procedures identified in 43 C.F.R. part 11, subpart D," provided that any such procedure meets [certain specific conditions]....
>
> Therefore, the Department has retained components relating to oil in the final versions of the [Type A procedures], while recognizing that these components are without any direct regulatory effect. The Department is also providing responses to comments it received on the oil-related components of the type A models. However, the Department wishes to emphasize that its regulations do not govern the assessment of natural resource damages for oil discharges under OPA. Trustees who wish to use the type A procedures and obtain a rebuttable presumption for assessments of oil discharges must follow the process established by NOAA's regulations.

1996 Type A rule, 61 Fed. Reg. at 20,561.

S. Ct. 1154, 1161 (1997). The regulations plainly acknowledge that the retained (and revised) subroutines are without binding effect because regulation of oil and petroleum discharges is now the exclusive province of NOAA. *See* 1996 Type A rule, 61 Fed. Reg. at 20,561. Thus, NAM cannot have been injured by DOI's decision to publish the non-binding materials. Second and more fundamentally, NAM has failed to show that any injury it may have suffered is "fairly traceable" to *DOI's* decision to retain, in non-binding form, the oil discharge databases and subroutines. To the extent NAM has a problem with NOAA's incorporation of the procedures into its OPA regulation without developing assessment submodels and databases anew and without subjecting such procedures to additional notice and comment, its claim is against NOAA, not DOI. *Cf. Animal Legal Defense Fund,* 130 F.3d at ---, 1997 WL 753903, at *3 ("In analyzing the 'causation' element of constitutional standing, we ask whether it is 'substantially probable' that the challenged acts of the [respondent]—as opposed to some third party—caused [the petitioner's] particularized injury."). Furthermore, NAM had an opportunity to participate in the litigation challenging NOAA's regulations—indeed, its counsel represented an intervenor in that case. *See General Elec.,* 128 F.3d at 769. Accordingly, we find that NAM has failed to establish its standing to bring its oil discharge claims against DOI.

III. CONCLUSION

For the foregoing reasons, we uphold DOI's Type A rule (Natural Resource Damage Assessments—Type A Procedures, 61 Fed. Reg. 20,560 (1996) (codified at 43 C.F.R. pt. 11)). Accordingly, NAM's petition is

Denied.